Listing of Claims

This listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method comprising:

receiving a first mask pattern, the first mask pattern including a plurality of features to be patterned on a particular substrate layer;

decomposing the first mask pattern into two or more second mask patterns, each of said second mask patterns including a portion of said plurality of features, wherein one of the two or more second mask patterns is to be included in a first mask to pattern some of the plurality of features on the particular substrate layer, and a different one of the two or more second mask patterns is to be included in a second mask separate from the first mask to pattern others of the plurality of features on the particular substrate layer, and wherein the pitch of at least one of the second mask patterns is approximately two or more times greater than the pitch of the first mask pattern.

2. (Original) The method of claim 1, wherein said decomposing comprises:

assigning different identifiers to different groups of features in the first mask pattern.

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3. (Original) The method of claim 2, wherein said assigning comprises assigning different identifiers to adjacent features.

4. (Original) The method of claim 2, wherein assigning different identifiers comprises assigning different colors to different features in the first mask pattern.

5. (Previously Presented) The method of claim 2, wherein each of the two or more second mask patterns includes features in a corresponding one of the different groups.

6. (Previously Presented) The method of claim 1, further comprising:

generating the first mask and the second mask.

7. (Previously Presented) The method of claim 6, further comprising:

transferring the first mask pattern to the particular layer using at least the first mask and the second mask, wherein the particular layer comprises photoresist.

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8. (Previously Presented) The method of claim 7, wherein said transferring comprises exposing the photoresist to each of the first mask and the second mask.

9. (Original) The method of claim 1, wherein the first mask pattern comprises a mask pattern corresponding to a contact layer.

10. (Canceled).

11. (Currently Amended) The method of claim 1, wherein a pitch of the first mask pattern exceeds a resolution limit of an imaging system, and

wherein ~~a~~ the pitch of each of the two or more second mask patterns is within the resolution limit of the imaging system.

12. (Currently Amended) An article comprising a machine-readable medium including machine-executable instructions operative to cause a machine to:

receive information indicative of a first mask pattern, the first mask pattern including a plurality of features to be patterned on a particular substrate layer;

decompose the information indicative of the first mask pattern into information indicative of two or more second mask

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patterns, each of said second mask patterns including a portion of said plurality of features, wherein one of the two or more second mask patterns is to be included in a first mask to pattern some of the plurality of features on the particular substrate layer, and a different one of the two or more second mask patterns is to be included in a second mask separate from the first mask, and wherein the pitch of at least one of the second mask patterns is approximately two or more times greater than the pitch of the first mask pattern.

13. (Original) The article of claim 12, wherein the instructions for said decomposing comprise instructions operative to cause the machine to assign different identifiers to different groups of features in the first mask pattern.

14. (Original) The article of claim 13, wherein the instructions for said assigning comprise instructions operative to cause the machine to assign different identifiers to adjacent features.

15. (Original) The article of claim 13, wherein the instructions for said assigning different identifiers comprise instructions operative to cause the machine to assign different colors to different features in the first mask pattern.

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16. (Previously Presented) The article of claim 13, wherein each of the two or more second mask patterns includes features in a corresponding one of the different groups.

17. (Currently Amended) An apparatus comprising:

a storage device including data corresponding to features in a first mask pattern having a pitch;

a pattern decomposition module operative to decompose the first mask pattern having a pitch into two or more second mask patterns, each of said second mask patterns including a portion of the plurality of features, wherein one of the two or more second mask patterns is to be included in a first mask, and a different one of the two or more second mask patterns is to be included in a second mask separate from the first mask, and wherein the pitch of at least one of the second mask patterns is approximately two or more times greater than the pitch of the first mask pattern.

18. (Original) The apparatus of claim 17, wherein the storage device is a database.

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19. (Original) The apparatus of claim 17, wherein the data corresponding to features includes coordinates and identifiers for the features.

20. (Original) The apparatus of claim 17, wherein the pattern decomposition module is operative to assign different identifiers to different groups of features in the first mask pattern.

21. (Original) The apparatus of claim 20, wherein the pattern decomposition module is operative to assign different identifiers to adjacent features.

22. (Original) The apparatus of claim 20, wherein the pattern decomposition module is operative to assign different colors to different features in the first mask pattern.

23. (Original) The apparatus of claim 20, wherein each of the two or more mask patterns includes features in a corresponding one of the different groups.

24. (Currently Amended) An imaging system comprising:

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a first mask, the first mask including a first portion of a mask pattern to be transferred to a particular photoresist layer;

a second mask separate from the first mask, the second mask including ~~another~~ a second portion of the mask pattern to be transferred to the particular photoresist layer,

wherein the pitch of the first portion and the pitch of the second portion are approximately two or more times greater than the pitch of the mask pattern to be transferred to the particular photoresist layer.

25. (Currently Amended) The imaging system of claim 24, wherein ~~a~~ the pitch of the mask pattern is less than a resolution limit of the lithography system, and wherein ~~a~~ the pitch of the first ~~mask~~ portion is greater than or equal to the resolution limit of the lithography system.

26. (Currently Amended) The imaging system of claim 25, wherein ~~a~~ the pitch of the second ~~mask~~ portion is greater than or equal to the resolution limit of the lithography system.

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